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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR   | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/694,553      | 10/27/2003  | Harris A. Reynolds JR. | 09432/180003        | 2419             |

22511 7590 10/23/2006

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EXAMINER

AFTERGUT, JEFF H

ART UNIT PAPER NUMBER

1733

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/694,553

Applicant(s)

REYNOLDS ET AL.

Examiner

Jeff H. Aftergut

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3 and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over E.P. 907,049 in view of Thongs, Jr for the same reasons as expressed in paragraph 2 of the Office action dated 6-6-06.
3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with either one of Matuska et al or Corr et al for the same reasons as presented in paragraph 3 of the Office action dated 6-6-06.
4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further taken with Fillman for the same reasons as expressed in paragraph 4 of the Office action dated 6-6-06.

***Response to Arguments***

5. Applicant's arguments filed September 6, 2006 have been fully considered but they are not persuasive.

The applicant essentially has a single argument for the patentability of all of the claims, namely that the prior art failed to teach each and every step of the recited claim because there is a lack of a teaching that one would have wound the fibers into at least one trap under tension and that this tension is maintained during resin cure. The applicant argues that the reference to Baldwin does not teach winding the fibers under tension through the traplock let alone maintaining the tension during resin cure and that

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Thongs taught that the fibers are not continuously maintained under tension because when reading the reference as a whole it suggested that they “may be cut “in order to provide enough slack in the helix layers to allow them to be pulled down fully”. This argument is respectfully traversed.

To begin with, E.P. '049 (Baldwin) suggested pulling the fibers down into the traplock arrangement. While the reference is silent as the tension on the fibers in the winding operation, one skilled in the art of filament winding would have understood that the fibers were not pushed onto the mandrel but rather they are pulled onto the mandrel during rotation of the same and that there is a requisite tensioning of the fibers during the filament winding operation. Moreover, Thongs expressly stated that the fibers of the helical windings (which were to be disposed within the trap in E.P. '049 would have been applied to the mandrel under low tension so that they were effectively pulled down into the groove or trap by the hoop windings which were clearly applied under high tension. The fact that the reference suggested that one “may” cut the helical fibers in order to facilitate their placement does not take away from the teachings of the reference when viewed as a whole that one skilled in the art would have likewise understood that if low tension was used this would have been suitable to facilitate placement into the trap with the high tension hoop winding. It appears a fair reading of the reference is that alternatively to winding under low tension one might need to sever the helical fibers to allow for their placement in the trap and not that this must be performed. In fact, the reference to E.P. '049 performed no severing of the fibers and was able to retain the fibers within the trap with the hoop windings. This was more likely

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than not possible because the helical winding therein were under low tension and the hoop windings were under high tension in the processing as proposed by Thongs, Jr. Applicant is additionally advised that one skilled in the art would have appreciated that severing the fibers in the region of the trap would have weakened the composite part in the area of the trap (as the continuous fibers allow for load distribution and stresses to be relieved in the assembly and the composite is strongest in the direction of the continuous fibers). It would have been understood from Thongs, Jr. that the assembly was formed with high tension exterior hoop windings retaining the helical windings within a trap wherein the helical windings in the trap were applied under low tension and the tension on the fibers was retained subsequent to application (there is no relaxation of the fibers after the winding and prior to or after curing of the assembly). Additionally it should be pointed out that while the references do not expressly address the microscopic waviness of the outer surface that this is an intrinsic function of winding at high tension and maintaining the same (which the prior art suggested). As the prior art suggested the processing necessary to achieve a lack of waviness in the exterior layer, it would have been appreciated that the processing in accordance with the references cited would have produced a similar end product which lacked fiber microscopic waviness as claimed.

Regarding the additional references applied to reject claims 4 and 5, the applicant does not dispute the teachings of these references but rather takes the position that these additional references do not cure the deficiencies of E.P. '049 and Thongs, Jr. the applicant is advised that as there are no deficiencies in the rejection of

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the independent claim and no specific arguments presented against the additional references, these claims likewise fall or rise with the patentability of the independent claim (which as addressed above has not been found to be patentable). Because applicant did not specifically address the teachings of Matuska et al, Fillman or Corr et al as applied to claims 4 and 5, it is deemed that applicant agrees with the Office interpretation of these references and that their teachings would have been obviously applied with E.P. '049 and Thongs to render the subject matter of these claims unpatentable.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jeff M. Aftergut  
Primary Examiner  
Art Unit 1733

JHA  
October 19, 2006